

open water, or by ski-plane in winter. Air transport was not done for 4–6 weeks each spring and fall, when it was impossible to land.

While her husband was involved in fieldwork, the author was busy discovering the traditions of the Inuit, learning to make clothing from caribou hide and prepare local food, and making many new friends as a result. The couple lived in snow houses and skin tents, dealt with close calls aboard boats in ice-floe areas, and traveled by dog sledge in blizzards. Few people today, even Inuit, live some of the lifestyle that is described in this book because of the advances in technology and contact with the stream of people visiting northern settlements. For this reason, this book is especially valuable for its detailed descriptions of how the Inuit traveled and worked in the harsh and primitive Canadian Arctic that existed 60 years ago. The journals are also replete with the fun that Washburn and her husband had in doing what most people today envy, but cannot really duplicate. In his foreword, George D. Hobson, first Director of Canada's Polar Continental Shelf Project and a veteran of the Canadian Arctic from the same time period covered in this book, states: "They learned that to survive in those harsh conditions meant you had to share your food and possessions."

The book includes a glossary of 65 terms, a combination of Inuktitut words, geological terms, and a variety of others. An appendix lists itineraries and people met during each of the years traveled, and a bibliography of eight items provides some background citations for further reading. Three indexes (Geographic Names and Locations, Personal Names, and Ships/Schooners) complete the book.

The photograph on p. 21, which shows the wreck of the *Maud*, is especially meaningful for the history of Arctic exploration. Originally Roald Amundsen's vessel, the *Maud* traversed the Northeast Passage in 1918–20, but wound up at Cambridge Bay, Northwest Territories, far to the west, after the Hudson's Bay Company bought it for use in the Northwest Passage. The condition of the *Maud* today (summer 2000) is in further decline. A ship of this importance deserves a better home than rotting away in the shallows at Cambridge Bay.

For many years after the time of their fieldwork, the Washburns continued to live and conduct research in the Canadian Arctic, including summers at their small house just outside of Resolute. The year 2000 appears to have been their last, as they have now retired, if that is possible for this energetic couple, to their home in Bellevue, Washington. They will be missed at Resolute and elsewhere in the Arctic regions that became so much a part of their lives for more than half a century.

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THE SEARCH FOR THE NORTH WEST PASSAGE. By ANN SAVOURS. New York: St. Martin's Press, 1999. ISBN 0-312-22372-2. x + 342 p., maps, b&w illus., notes, appendices, index. Hardbound. Cdn\$43.50; US\$29.95.

The Northwest Passage is the name for the sea route linking the North Atlantic Ocean with the North Pacific Ocean, through the Canadian Arctic islands. The search for such a route, as a way to get around America to reach the riches of China and the Far East, began in the 16th and 17th centuries. By the beginning of the 19th century, a commercial route was no longer of great significance, and the search had become in part a geographical challenge—simply a need to map the unknown spaces of Arctic North America. I have paraphrased the authors introduction (p. vi), which provides a setting for the book. Savours emphasizes that the Northwest Passage took centuries to discover because of the presence of ice, as well as the intricate geography of the islands. The ice in the Northwest Passage, however, is normally one-year, or in some areas, two-year ice, unlike the multiyear ice formed in the central polar basin of the Arctic Ocean. Early views of Arctic Ocean ice held that the freshwater ice originated in rivers that drained into the Arctic Ocean. However, the combination of ice conditions, wooden ships, scurvy, and explorers' inability to adapt to the Inuit means of survival kept the Northwest Passage a secret until the 19th century.

The book consists of 17 chapters, which deal with the whole chronology of exploration in the Canadian Arctic for the coveted Northwest Passage. The author's objective is to provide details of the numerous expeditions that were involved in this search, and she has fulfilled that aim very well. More than 100 illustrations, some in color and some never previously published, are reprinted here from archival material and expedition books, as are numerous maps representing the areas of Arctic Canada known at the time. Nearly the whole last half of the book covers the better-known Franklin expedition of 1845–47, when Sir John Franklin took two ships, the *Erebus* and the *Terror*, into Lancaster Sound. After a brief sighting by two whaling ships west of Greenland at the end of July 1845, Franklin's ships and crew were never seen again by white men. The chapter on the Franklin expedition itself is well written, consisting of details that resulted from search expeditions that followed Franklin's disappearance. It was later determined that the expedition spent the first winter (1845–46) at Beechey Island, on the southwest corner of Devon Island. The exploration had proceeded north in Wellington Channel and circumnavigated Cornwallis Island before returning to Beechey. During that winter, the crew did target practice, amateur theatricals, scientific observations, and collection of specimens, but winter conditions soon took their toll. Crewmen John Torrington died on 1 January 1846, and John Hartnell died three days later. On 3 April William Braine died and was buried next to the other two at a gravesite on Beechey Island.

Although the Franklin expedition was outfitted with provisions for three years, concern grew back in England about its well-being. In 1848, the Arctic Council was formed to plan the search for Franklin and, with the persuasion of and support from Lady Franklin, targeted search expeditions in three areas. James Clark Ross (1848) searched from the east through Lancaster Sound. Robert McClure and Richard Collinson (1850) entered from the west, through Bering Strait. And John Rae and John Richardson (1848) went overland, between the Coppermine and MacKenzie Rivers. McClure's expedition actually made the link with the rest of the Northwest Passage, and Rae and Richardson discovered frozen remains of Franklin's men, who had been heading east to Back River in an attempt to reach the North American mainland. However, details of the actual site of the ships and the whereabouts of the dead remained sketchy. On 27 August 1850, first evidence was found by several search expeditions of the graves on Beechey Island. Conclusive evidence of the outcome of the Franklin expedition came from a document found during the 1857–59 McClintock voyage. The document, dated 28 May 1847, mentioned Franklin's first winter at Beechey Island. Written around its margins was a second message, dated 25 April 1848, stating that Franklin had died on 11 June 1847. Officers and 15 men were also dead, and the rest had abandoned the ship and headed for Great Fish River on the mainland. Neither Franklin's body nor his grave was ever found. Franklin did not know it at the time, but his voyage occurred at the close of a 30–50 year frigid period, as indicated by analyses of an ice core drilled in the 1970s at Devon Island. The 30- to 50-year frigid period of Franklin's time is not duplicated anywhere else in the 700-year climatic record given by the ice core.

During the period 1848–59, 32 expeditions searching for the ill-fated Franklin ships and crew found enough evidence to piece together their story. Exhumation of the three bodies on Beechey Island showed high levels of lead, a possible contributor to their death (Beattie and Geiger, 1987). Tuberculosis was also in evidence. Recent research of Admiralty records by Cookman (2000) shows that botulism poisoning might have been the primary fate of many expedition members, particularly after coal supplies were low or exhausted and tinned food could not be properly prepared. The tinned food was traced to an unscrupulous provisioner, who canned mainly food scraps and did not observe proper procedures during the canning—and had provided most of the food for the expedition.

The Northwest Passage was finally achieved by Roald Amundsen during his three-year voyage in the ship *Gjoa* (1903–06). The last chapter discusses this event, as well as the 1940–42 transit of the *St. Roch*, the second ship to traverse the passage. The climax to later passages is illustrated in a photograph of the supertanker *Manhattan*, which became the first merchant ship to navigate the Passage in 1969 (p. 316). The *St. Roch II* successfully completed a passage in 2000, as did the USCGC *Healy*.

Both reported encountering little ice, perhaps the sign of a warming Earth. Annual voyages by four vessels, including Russian icebreakers, are now common. More than 60 vessels have transited the Passage since Amundsen did it. Concern now exists that the reduced amount of ice might encourage attempts to ship freight through the Passage, a potential catastrophe for the fragile Arctic environment.

Appendix I contains excerpts from Pullen and Swithinbank (1991), who documented the successful transits of the Northwest Passage between 1906 and 1990. Appendix II lists relics of Franklin's last expedition held in the collections of the National Maritime Museum, Greenwich. A thorough index completes the book.

Reproduction, including that of photos and sketches from earlier works, is excellent. I recommend the book for historians and others interested in this remote part of the world, where expeditions and their tragedies are a part of the history. It is an excellent book for the subject, and well worth the cost.

Although many books have been published about this famous part of the world and its expeditions, this one captures the reader early with its chronological arrangement of events, and detailed accounts of the more significant ones.

The magic of the Northwest Passage still lives. A brief announcement in *Science* (288:431, 21 April 2000) mentions a new proposal to search for the *Erebus* and the *Terror*. The magic of the Passage also lives on in a song, written by the late Canadian songwriter, Stan Rogers, the chorus of which the author includes on p. viii:

Ah, for just one time I would take the North West Passage
To find the hand of Franklin reaching for the Beaufort Sea
Tracing one warm line through a land so wide and savage
And make a north west passage to the sea...

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